

# Computer Science



## *Curriculum and Resource Guide*





## Table of Contents

<b>Elementary (Grades K-5)</b>	<b>2</b>
<b>Middle School (Grades 6-8)</b>	<b>6</b>
<b>High School (By Course)</b>	<b>11</b>
4803 Introduction to Computer Science	11
4568 AP Computer Science Principles	12
4801 Computer Science I	15
4570 AP Computer Science A	15
5236 Computer Science II	18
5251 Computer Science III: Cybersecurity	18
5249 Computer Science III: Software Development	19
<b>Additional Curricular Resources</b>	<b>20</b>

**Disclaimer:** The following list of curriculum options is intended to serve as a resource for Indiana school districts. This list does not necessarily represent all available curriculum providers and does not indicate any particular curriculum recommendation by the Indiana Department of Education. The curricula may not address every standard in the relevant grade band or course. Computer science curriculum decisions are made by each Local Education Agency, and no matter the curriculum decision, it is up to the Local Education Agency to ensure that all required standards are adequately covered. The information in this document is as accurate as possible as of the time of its most recent update. Please notify [Jake Koressel](#), IDOE Computer Science Specialist, if you notice any information that needs to be added or updated.

**Credits:** Thank you to the following educators who assisted with the development of this guide: Julie Alano (Hamilton Southeastern High School), Ryan Bean (Sense Charter School), Kristen Haubold (Riley High School), Brandy Hicks (Milan Community Schools), Kerry Sensenbrenner (Thompkins Middle School), Justin Smith (Pike High School), Katy Sparks (Monroe County Community School Corporation), and Genevieve Petty (Cold Spring School).



## Elementary (Grades K-5)

Organization	Apple
URL	<a href="http://www.apple.com">www.apple.com</a>
Course(s)	Get Started with Code 1, Get Started with Code 2
Programming Language(s)	Swift
Length	Flexible (30 hours)
Cost	Free
Professional Development	Local workshops
Technology Requirements	1:1 iPads (unplugged lessons also available)
Additional Resources	<a href="https://www.apple.com/everyone-can-code/">https://www.apple.com/everyone-can-code/</a>

Organization	Code.org (Indiana Regional Partner: Nextech)
URL	<a href="http://www.code.org">www.code.org</a>
Course(s)	Computer Science Fundamentals
Programming Language(s)	Drag-and-drop
Length	Flexible (12-20 Lessons per grade level)
Cost	Free
Professional Development	Local workshops
Technology Requirements	1:1 or 1:2 desktops, laptops, Chromebooks, or tablets with modern web browser and internet connection (unplugged lessons also available)
Additional Resources	<a href="https://code.org/files/CSF_CoursesA-F_Curriculum_Guide.pdf">https://code.org/files/CSF_CoursesA-F_Curriculum_Guide.pdf</a>

Organization	Codelicious
URL	<a href="https://www.codelicious.com/">https://www.codelicious.com/</a>
Course(s)	Various
Programming Language(s)	JavaScript, Java, drag-and-drop
Length	Semester
Cost	Varies
Professional Development	Part of adoption
Technology Requirements	1:1 computing environment with desktops, laptops, or Chromebooks with a modern web browser and internet connection
Additional Resources	<a href="https://www.codelicious.com/school-solutions">https://www.codelicious.com/school-solutions</a>



# Indiana Department of Education

Dr. Katie Jenner, Secretary of Education

Organization	CodeMonkey
URL	<a href="http://codemonkey.com">codemonkey.com</a>
Course(s)	CodeMonkey Jr., Beaver Achiever, Dodo Does Math, Coding Adventure, Challenge Builder, Game Builder, Banana Tales, Coding Chatbots
Programming Language(s)	Python, CoffeeScript
Length	Semester or Full-Year
Cost	Free trial and Paid Subscription
Professional Development	Online and on-site options
Technology Requirements	Desktops, laptops, or Chromebooks - Android tablets and iPads work for some courses
Additional Resources	<a href="https://www.codemonkey.com/courses/">https://www.codemonkey.com/courses/</a>

Organization	Google CS First (Midwest Regional Partner: Five-Star Technology)
URL	<a href="https://csfirst.withgoogle.com/s/en/home">https://csfirst.withgoogle.com/s/en/home</a>
Course(s)	Theme-based projects
Programming Language(s)	Drag-and-drop
Length	Flexible - variety of lessons and themes
Cost	Free
Professional Development	Local workshops
Technology Requirements	1:1 desktops, laptops, or Chromebooks with internet connection and headphones
Additional Resources	<a href="https://csfirst.withgoogle.com/c/cs-first/en/curriculum.html">https://csfirst.withgoogle.com/c/cs-first/en/curriculum.html</a>

Organization	Learning.com
URL	<a href="http://www.learning.com">www.learning.com</a>
Course(s)	EasyTech, EasyCode
Programming Language(s)	Drag-and-Drop, CoffeeScript, Python
Length	Flexible, integrated
Cost	Contact Learning.com for a quote
Professional Development	Local workshops
Technology Requirements	Desktops, laptops, Chromebooks, or tablets with modern web browser and internet connection
Additional Resources	<a href="https://www.learning.com/solutions">https://www.learning.com/solutions</a>



# Indiana Department of Education

Dr. Katie Jenner, Secretary of Education

Organization	Project Lead the Way
URL	<a href="http://www.pltw.org">www.pltw.org</a>
Course(s)	PLTW Launch
Programming Language(s)	Drag-and-drop
Length	Six ten-hour computer science modules
Cost	<a href="#">PLTW Investment Calculator</a>
Professional Development	Available for PLTW Launch Classroom Teachers as well as PLTW Launch Lead Teachers
Technology Requirements	iPads, Android tablets, or Android-enabled Chromebooks at no more than a 4:1 student to tablet ratio Each teacher must have a laptop and a tablet
Additional Resources	<a href="https://www.pltw.org/our-programs/pltw-gateway">https://www.pltw.org/our-programs/pltw-gateway</a>

Organization	Scratch Ed
URL	<a href="http://www.scratch.mit.edu">www.scratch.mit.edu</a>
Course(s)	Creative Computing
Programming Language(s)	Drag-and-drop
Length	Semester or integrated
Cost	Free
Professional Development	Getting started exercises, educator meetups
Technology Requirements	Desktops, laptops, or tablets with internet connection
Additional Resources	<a href="http://scratched.gse.harvard.edu/guide/">http://scratched.gse.harvard.edu/guide/</a>

Organization	Scratch Jr.
URL	<a href="https://www.scratchjr.org/">https://www.scratchjr.org/</a>
Course(s)	Animated Genres, Playground Games, and Reinforcing Literacy and Math
Programming Language(s)	Drag-and-drop
Length	Less than one semester or integrated
Cost	Free
Professional Development	n/a
Technology Requirements	Chromebooks, iPads, or Android tablets
Additional Resources	<a href="https://www.scratchjr.org/teach/curricula">https://www.scratchjr.org/teach/curricula</a>



# Indiana Department of Education

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Organization	Tynker
URL	<a href="http://www.tynker.com">www.tynker.com</a>
Course(s)	One course – Free Up to seven courses – Paid
Programming Language(s)	Drag-and-drop, JavaScript, Python
Length	Varied
Cost	One course – Free \$399 per class per additional course \$2,600 per school for all courses District pricing available
Professional Development	Online and in-person options for schools/districts who purchase Tynker
Technology Requirements	Desktop or laptop computers or Chromebooks Some courses available on iPad
Additional Resources	<a href="https://www.tynker.com/school/coding-curriculum/">https://www.tynker.com/school/coding-curriculum/</a>



## Middle School (Grades 6-8)

Organization	Apple
URL	<a href="http://www.apple.com">www.apple.com</a>
Course(s)	Learn to Code 1 & 2, Learn to Code 3
Programming Language(s)	Swift
Length	Flexible, Semester, Year-long
Cost	Free
Professional Development	Online training, Local workshops
Technology Requirements	1:1 iPads
Additional Resources	<a href="https://www.apple.com/everyone-can-code/">https://www.apple.com/everyone-can-code/</a>

Organization	Bootstrap
URL	<a href="http://www.bootstrapworld.org">www.bootstrapworld.org</a>
Course(s)	Algebra, Reactive, and Data Science
Programming Language(s)	Racket, Pyret
Length	Semester or integrated
Cost	Free
Professional Development	Workshops available across the U.S
Technology Requirements	1:1 computing environment with desktops, laptops, or Chromebooks with a modern web browser and internet connection
Additional Resources	<a href="http://www.bootstrapworld.org/materials/spring2018/">http://www.bootstrapworld.org/materials/spring2018/</a>

Organization	Code.org (Indiana Regional Partner: Nextech)
URL	<a href="http://www.code.org">www.code.org</a>
Course(s)	Computer Science Discoveries
Programming Language(s)	JavaScript
Length	Semester or Full-Year
Cost	Free
Professional Development	Weeklong summer intensive with follow-up sessions
Technology Requirements	1:1 computing environment with desktops, laptops, or Chromebooks with a modern web browser and internet connection
Additional Resources	<a href="https://code.org/files/CSDiscoveries-Curriculum-Guide.pdf">https://code.org/files/CSDiscoveries-Curriculum-Guide.pdf</a>



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Organization	CodeHS
URL	<a href="http://www.codehs.com">www.codehs.com</a>
Course(s)	Intro to Programming, World of Computing, Computing Ideas, Creative Computing
Programming Language(s)	JavaScript, Java
Length	Flexible
Cost	Free with paid upgrades
Professional Development	Online and in-person options - <a href="https://codehs.com/info/pd">https://codehs.com/info/pd</a>
Technology Requirements	1:1 computing environment with desktops, laptops, or Chromebooks with a modern web browser and internet connection
Additional Resources	<a href="https://codehs.com/info/curriculum">https://codehs.com/info/curriculum</a>

Organization	Codelicious
URL	<a href="https://www.codelicious.com/">https://www.codelicious.com/</a>
Course(s)	Various
Programming Language(s)	JavaScript, Java, drag-and-drop
Length	Semester
Cost	Varies
Professional Development	Part of adoption
Technology Requirements	1:1 computing environment with desktops, laptops, or Chromebooks with a modern web browser and internet connection
Additional Resources	<a href="https://www.codelicious.com/school-solutions">https://www.codelicious.com/school-solutions</a>

Organization	CodeMonkey
URL	<a href="http://codemonkey.com">codemonkey.com</a>
Course(s)	Dodo Does Math, Coding Adventure, Challenge Builder, Game Builder, Banana Tales, Coding Chatbots
Programming Language(s)	Python, CoffeeScript
Length	Semester or Full-Year
Cost	Free trial and Paid Subscription
Professional Development	Online and on-site options
Technology Requirements	Desktops, laptops, or Chromebooks - Android tablets or iPads work for some courses
Additional Resources	<a href="https://www.codemonkey.com/courses/">https://www.codemonkey.com/courses/</a>



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Organization	Globaloria
URL	<a href="http://www.globaloria.com">www.globaloria.com</a>
Course(s)	Essentials of Coding, Essentials of Game Design, Intro to Computer Science
Programming Language(s)	JavaScript
Length	Semester or Full-Year
Cost	Free
Professional Development	Pre-course training, mentorship and coaching, and other embedded supports
Technology Requirements	1:1 computing environment with modern web browser and internet connection All courses compatible with desktop and laptop computers Some courses compatible with Chromebook Some courses require locally-installed software
Additional Resources	<a href="http://globaloria.com/courses-services/courses/">http://globaloria.com/courses-services/courses/</a>

Organization	Google CS First (Midwest Regional Partner: Five-Star Technology)
URL	<a href="https://csfirst.withgoogle.com/s/en/home">https://csfirst.withgoogle.com/s/en/home</a>
Course(s)	Theme-based projects
Programming Language(s)	Drag-and-drop
Length	Flexible - variety of lessons and themes
Cost	Free
Professional Development	Local workshops
Technology Requirements	1:1 desktops, laptops, or Chromebooks with internet connection and headphones
Additional Resources	<a href="https://csfirst.withgoogle.com/c/cs-first/en/curriculum.html">https://csfirst.withgoogle.com/c/cs-first/en/curriculum.html</a>

Organization	Khan Academy
URL	<a href="http://www.khanacademy.org">www.khanacademy.org</a>
Course(s)	Algorithms, How Computers Work, Internet 101, SQL, Various levels of JavaScript
Programming Language(s)	JavaScript, SQL
Length	Semester or Full-Year
Cost	Free
Professional Development	Online modules
Technology Requirements	1:1 computing environment with desktops, laptops, or Chromebooks with a modern web browser and internet connection
Additional Resources	<a href="https://www.khanacademy.org/computing/computer-programming">https://www.khanacademy.org/computing/computer-programming</a> <a href="https://www.khanacademy.org/computing/computer-science">https://www.khanacademy.org/computing/computer-science</a>



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Organization	Learning.com
URL	<a href="http://www.learning.com">www.learning.com</a>
Course(s)	EasyTech, EasyCode
Programming Language(s)	Drag-and-Drop, CoffeeScript, Python
Length	Flexible, integrated
Cost	Contact Learning.com for a quote
Professional Development	Local workshops
Technology Requirements	Desktops, laptops, Chromebooks, or tablets with modern web browser and internet connection
Additional Resources	<a href="https://www.learning.com/solutions">https://www.learning.com/solutions</a>

Organization	Project Growing Up Thinking Scientifically (GUTS)
URL	<a href="http://www.projectguts.org">www.projectguts.org</a>
Course(s)	CS in Science
Programming Language(s)	Drag-and-drop
Length	Semester or Full-Year
Cost	Free
Professional Development	MOOC, Webinars, Workshops
Technology Requirements	1:1 computing environment with desktops, laptops, or Chromebooks with a modern web browser and internet connection
Additional Resources	<a href="https://www.pltw.org/our-programs/pltw-gateway">https://www.pltw.org/our-programs/pltw-gateway</a>

Organization	Project Lead The Way
URL	<a href="http://www.pltw.org">www.pltw.org</a>
Course(s)	PLTW Gateway
Programming Language(s)	Drag-and-drop, Python
Length	9 weeks per unit
Cost	<a href="#">PLTW Investment Calculator</a>
Professional Development	Readiness training, core training, and classroom supports
Technology Requirements	1:1 computers and 1:2 Android tablets with internet access
Additional Resources	<a href="https://www.pltw.org/our-programs/pltw-gateway">https://www.pltw.org/our-programs/pltw-gateway</a>

Organization	Scratch Ed
URL	<a href="http://www.scratch.mit.edu">www.scratch.mit.edu</a>
Course(s)	Creative Computing
Programming Language(s)	Drag-and-drop
Length	Semester or integrated
Cost	Free
Professional Development	Getting started exercises, educator meetups
Technology Requirements	Desktops, laptops, or tablets with internet connection
Additional Resources	<a href="http://scratched.gse.harvard.edu/guide/">http://scratched.gse.harvard.edu/guide/</a>



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Organization	Tynker
URL	<a href="http://www.tynker.com">www.tynker.com</a>
Course(s)	One course – Free Up to eight courses – Paid
Programming Language(s)	Drag-and-drop, JavaScript, Python
Length	Varied
Cost	One course – Free \$399 per class per additional course \$2,600 per school for all courses District pricing available
Professional Development	Online and in-person options for schools/districts who purchase Tynker
Technology Requirements	Desktop or laptop computers or Chromebooks Some courses available on iPad
Additional Resources	<a href="https://www.tynker.com/school/coding-curriculum/">https://www.tynker.com/school/coding-curriculum/</a>



# High School (By Course)

## 4803 Introduction to Computer Science

Organization	Code.org (Indiana Regional Partner: Nextech)
URL	<a href="http://www.code.org">www.code.org</a>
Course(s)	Computer Science Discoveries
Programming Language(s)	JavaScript
Length	Semester or Full-Year
Cost	Free
Professional Development	Weeklong summer intensive with follow-up sessions
Technology Requirements	1:1 computing environment with desktops, laptops, or Chromebooks with a modern web browser and internet connection
Additional Resources	<a href="https://code.org/files/CSDDiscoveries-Curriculum-Guide.pdf">https://code.org/files/CSDDiscoveries-Curriculum-Guide.pdf</a>

Organization	Exploring Computer Science
URL	<a href="http://www.exploringcs.org">www.exploringcs.org</a>
Course(s)	Exploring Computer Science
Programming Language(s)	Drag-and-drop
Length	Semester or Year-long
Cost	Free
Professional Development	Week-long summer institute with quarterly PDs throughout the school year
Technology Requirements	1:1 or 1:2 computing environment with desktops or laptops with a modern browser and internet connection
Additional Resources	<a href="http://www.exploringcs.org/for-teachers-districts/curriculum">http://www.exploringcs.org/for-teachers-districts/curriculum</a>

Organization	Project Lead The Way
URL	<a href="http://www.pltw.org">www.pltw.org</a>
Course(s)	Computer Science Essentials
Programming Language(s)	Drag-and-drop, Python
Length	Full-Year
Cost	<a href="#">PLTW Investment Calculator</a>
Professional Development	Readiness training, core training, and classroom supports
Technology Requirements	1:1 computers and 1:2 Android tablets with internet access
Additional Resources	<a href="https://www.pltw.org/our-programs/pltw-computer-science">https://www.pltw.org/our-programs/pltw-computer-science</a>



Organization	Scratch Ed
URL	<a href="http://www.scratch.mit.edu">www.scratch.mit.edu</a>
Course(s)	Creative Computing
Programming Language(s)	Drag-and-drop
Length	Semester or integrated
Cost	Free
Professional Development	Getting started exercises, educator meetups
Technology Requirements	Desktops, laptops, or tablets with internet connection
Additional Resources	<a href="http://scratched.gse.harvard.edu/guide/">http://scratched.gse.harvard.edu/guide/</a>

## 4568 AP Computer Science Principles

Organization	Beauty and Joy of Computing
URL	<a href="http://www.bjc.berkeley.edu">www.bjc.berkeley.edu</a>
Course(s)	AP Computer Science Principles
Programming Language(s)	Snap! (drag-and-drop)
Length	Full-Year
Cost	Free
Professional Development	Online and in-person summer workshops
Technology Requirements	1:1 computing environment with desktops, laptops, or Chromebooks with a modern web browser and internet connection
Additional Resources	<a href="https://bjc.edc.org/bjc-r/course/bjc4nyc.html">https://bjc.edc.org/bjc-r/course/bjc4nyc.html</a>

Organization	CodeCombat
URL	<a href="https://codecombat.com/">https://codecombat.com/</a>
Course(s)	AP Computer Science Principles
Programming Language(s)	JavaScript, Python
Length	Year-long
Cost	Varies, contact <a href="mailto:schools@codecombat.com">schools@codecombat.com</a>
Professional Development	Self-paced with an online discussion forum
Technology Requirements	1:1 computing environment with desktops, laptops, or Chromebooks with a modern web browser and internet connection
Additional Resources	<a href="https://codecombat.com/apcsp">https://codecombat.com/apcsp</a>



# Indiana Department of Education

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Organization	CodeHS
URL	<a href="http://www.codehs.com">www.codehs.com</a>
Course(s)	AP Computer Science Principles
Programming Language(s)	JavaScript
Length	Full-Year
Cost	Free with paid upgrades
Professional Development	Online and in-person options - <a href="https://codehs.com/info/pd">https://codehs.com/info/pd</a>
Technology Requirements	1:1 computing environment with desktops, laptops, or Chromebooks with a modern web browser and internet connection
Additional Resources	<a href="https://codehs.com/info/curriculum">https://codehs.com/info/curriculum</a>

Organization	Code.org (Indiana Regional Partner: Nextech)
URL	<a href="http://www.code.org">www.code.org</a>
Course(s)	Computer Science Principles (AP or non-AP)
Programming Language(s)	JavaScript
Length	Full-Year
Cost	Free
Professional Development	Weeklong summer intensive with follow-up sessions
Technology Requirements	1:1 computing environment with desktops, laptops, or Chromebooks with a modern web browser and internet connection
Additional Resources	<a href="https://code.org/files/CSP_CurriculumGuide_2017_forWeb.pdf">https://code.org/files/CSP_CurriculumGuide_2017_forWeb.pdf</a>

Organization	Harvard University
URL	<a href="https://ap.cs50.net/">https://ap.cs50.net/</a>
Course(s)	CS50 AP
Programming Language(s)	Scratch, C, PHP, Python, JavaScript, SQL
Length	Full-Year
Cost	Free
Professional Development	Blended online and three-day summer workshop
Technology Requirements	1:1 Desktop or Laptop Computers with modern browser and internet connection
Additional Resources	<a href="https://ap.cs50.net/curriculum/">https://ap.cs50.net/curriculum/</a>



# Indiana Department of Education

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Organization	Mobile Computer Science Principles
URL	<a href="http://www.mobile-csp.org">www.mobile-csp.org</a>
Course(s)	AP Computer Science Principles
Programming Language(s)	Drag-and-drop
Length	Full-Year
Cost	Free
Professional Development	Immersion PD (for experienced CS instructors) and Extended PD (for instructors new to CS)
Technology Requirements	1:1 Desktop or Laptop Computers or Chromebooks with modern browser and internet connection, best with Android tablets as well
Additional Resources	<a href="http://www.course.mobilecsp.org">www.course.mobilecsp.org</a>

Organization	Project Lead The Way
URL	<a href="http://www.pltw.org">www.pltw.org</a>
Course(s)	Computer Science Principles
Programming Language(s)	Drag-and-drop, Python
Length	Full-Year
Cost	<a href="#">PLTW Investment Calculator</a>
Professional Development	Readiness training, core training, and classroom supports
Technology Requirements	1:1 computers and 1:2 Android tablets with internet access
Additional Resources	<a href="https://www.pltw.org/our-programs/pltw-computer-science">https://www.pltw.org/our-programs/pltw-computer-science</a>

Organization	UTeach
URL	<a href="https://cs.uteach.utexas.edu/">https://cs.uteach.utexas.edu/</a>
Course(s)	Computer Science Principles
Programming Language(s)	Drag-and-drop, Processing
Length	Full-Year
Cost	Free
Professional Development	Online course or in-person workshop
Technology Requirements	
Additional Resources	<a href="https://cs.uteach.utexas.edu/curriculum-and-teacher-materials">https://cs.uteach.utexas.edu/curriculum-and-teacher-materials</a>



## 4801 Computer Science I

All those indicated in the 4568 AP Computer Science Principles section.

Organization	CodeHS
URL	<a href="http://www.codehs.com">www.codehs.com</a>
Course(s)	Computer Science 1 (Indiana)
Programming Language(s)	Javascript
Length	Full-Year
Cost	Free with paid upgrades
Professional Development	Online and in-person options - <a href="https://codehs.com/info/pd">https://codehs.com/info/pd</a>
Technology Requirements	1:1 computing environment with desktops, laptops, or Chromebooks with a modern web browser and internet connection
Additional Resources	<a href="https://codehs.com/info/curriculum">https://codehs.com/info/curriculum</a>

## 4570 AP Computer Science A

Organization	A+ Computer Science
URL	<a href="https://www.apluscompsci.com/">https://www.apluscompsci.com/</a>
Course(s)	AP Computer Science A
Programming Language(s)	Java
Length	Full-Year
Cost	<a href="https://www.apluscompsci.com/orderform.htm">https://www.apluscompsci.com/orderform.htm</a>
Professional Development	Available upon request
Technology Requirements	
Additional Resources	<a href="https://www.apluscompsci.com/material.htm">https://www.apluscompsci.com/material.htm</a>

Organization	CodeHS
URL	<a href="http://www.codehs.com">www.codehs.com</a>
Course(s)	AP Computer Science in Java
Programming Language(s)	Java
Length	Full-Year
Cost	Free with paid upgrades
Professional Development	Online and in-person options - <a href="https://codehs.com/info/pd">https://codehs.com/info/pd</a>
Technology Requirements	1:1 computing environment with desktops, laptops, or Chromebooks with a modern web browser and internet connection
Additional Resources	<a href="https://codehs.com/info/curriculum">https://codehs.com/info/curriculum</a>



# Indiana Department of Education

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Organization	CSAwesome
URL	<a href="https://sites.google.com/view/csawesome/">https://sites.google.com/view/csawesome/</a>
Course(s)	AP Computer Science A
Programming Language(s)	Java
Length	Full-Year
Cost	Free
Professional Development	40-60 hours in a hybrid or online format
Technology Requirements	
Additional Resources	<a href="https://runestone.academy/runestone/books/published/csawesome/index.html">https://runestone.academy/runestone/books/published/csawesome/index.html</a>

Organization	Edhesive
URL	<a href="https://edhesive.com/">https://edhesive.com/</a>
Course(s)	AP Computer Science A
Programming Language(s)	Java
Length	Full-Year
Cost	Amazon Future Engineer Grant
Professional Development	Discussion forum
Technology Requirements	
Additional Resources	<a href="https://edhesive.com/courses/apcs_java">https://edhesive.com/courses/apcs_java</a>

Organization	Institute for Mathematics and Computer Science
URL	<a href="https://www.eimacs.com/home.htm">https://www.eimacs.com/home.htm</a>
Course(s)	AP Computer Science: Java Programming
Programming Language(s)	Java
Length	Full-Year
Cost	\$19.95/student \$50 annual class setup fee
Professional Development	
Technology Requirements	1:1 desktop or laptop computers with ability to install
Additional Resources	<a href="https://www.eimacs.com/educ_apcsoverview.htm">https://www.eimacs.com/educ_apcsoverview.htm</a>

Organization	Microsoft Philanthropies TEALS Program
URL	<a href="https://www.microsoft.com/en-us/teals">https://www.microsoft.com/en-us/teals</a>
Course(s)	AP Computer Science A
Programming Language(s)	Java
Length	Full-Year
Cost	Free
Professional Development	Summer workshops and opportunities to team-teach with industry professionals
Technology Requirements	
Additional Resources	<a href="http://aka.ms/APCSA">http://aka.ms/APCSA</a>



# Indiana Department of Education

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Organization	Popfizz CS
URL	<a href="https://popfizz.io/">https://popfizz.io/</a>
Course(s)	AP Computer Science A
Programming Language(s)	Java
Length	Full-Year
Cost	Paid
Professional Development	30-hour online course
Technology Requirements	
Additional Resources	<a href="https://popfizz.io/curriculum/ap-computer-science-a-2020">https://popfizz.io/curriculum/ap-computer-science-a-2020</a>

Organization	Project Lead The Way
URL	<a href="http://www.pltw.org">www.pltw.org</a>
Course(s)	Computer Science A
Programming Language(s)	Drag-and-drop, Python
Length	Full-Year
Cost	<a href="#">PLTW Investment Calculator</a>
Professional Development	Readiness training, core training, and classroom supports
Technology Requirements	1:1 computers and 1:2 Android tablets with internet access
Additional Resources	<a href="https://www.pltw.org/our-programs/pltw-computer-science">https://www.pltw.org/our-programs/pltw-computer-science</a>

Organization	Purdue University
URL	<a href="https://www.purdue.edu/">https://www.purdue.edu/</a>
Course(s)	PurdueX CS 180: AP Computer Science A - Java Programming
Programming Language(s)	Java
Length	Full-Year
Cost	Free
Professional Development	Teacher cohort and discussion forum
Technology Requirements	
Additional Resources	<a href="https://www.cs.purdue.edu/outreach/cs180x-students.html">https://www.cs.purdue.edu/outreach/cs180x-students.html</a>

Organization	UTeach
URL	<a href="https://cs.uteach.utexas.edu/">https://cs.uteach.utexas.edu/</a>
Course(s)	AP Computer Science A
Programming Language(s)	Java
Length	Full-Year
Cost	
Professional Development	
Technology Requirements	Five-day in-person or six-week online workshop
Additional Resources	<a href="https://cs.uteach.utexas.edu/computer-science-a">https://cs.uteach.utexas.edu/computer-science-a</a>



## 5236 Computer Science II

All those indicated in the 4570 AP Computer Science A section.

## 5251 Computer Science III: Cybersecurity

Organization	CodeHS
URL	<a href="https://codehs.com/">https://codehs.com/</a>
Course(s)	Cybersecurity
Programming Language(s)	SQL, JavaScript
Length	Full-Year
Cost	Free with paid upgrades
Professional Development	Online and in-person options - <a href="https://codehs.com/info/pd">https://codehs.com/info/pd</a>
Technology Requirements	1:1 computing environment with desktops, laptops, or Chromebooks with a modern web browser and internet connection
Additional Resources	<a href="https://codehs.com/info/curriculum/cybersecurity">https://codehs.com/info/curriculum/cybersecurity</a>

Organization	Derek Babb - University of Nebraska at Omaha
URL	<a href="https://derekbabb.github.io/CyberSecurity/">https://derekbabb.github.io/CyberSecurity/</a>
Course(s)	High School Cybersecurity
Programming Language(s)	N/a
Length	Full-Year
Cost	Free
Professional Development	Local workshops
Technology Requirements	
Additional Resources	

Organization	Palo Alto Networks
URL	<a href="https://www.paloaltonetworks.com/">https://www.paloaltonetworks.com/</a>
Course(s)	Multiple
Programming Language(s)	N/a
Length	Full-Year
Cost	Free
Professional Development	Virtual
Technology Requirements	
Additional Resources	<a href="https://www.paloaltonetworks.com/services/education/academy">https://www.paloaltonetworks.com/services/education/academy</a>



Organization	Project Lead The Way
URL	<a href="http://www.pltw.org">www.pltw.org</a>
Course(s)	Cybersecurity
Programming Language(s)	N/a
Length	Full-Year
Cost	<a href="#">PLTW Investment Calculator</a>
Professional Development	Readiness training, core training, and classroom supports
Technology Requirements	1:1 computers and 1:2 Android tablets with internet access
Additional Resources	<a href="https://www.pltw.org/our-programs/pltw-computer-science">https://www.pltw.org/our-programs/pltw-computer-science</a>

## 5249 Computer Science III: Software Development

Organization	Apple
URL	<a href="http://www.apple.com">www.apple.com</a>
Course(s)	Intro to App Development with Swift, App Development with Swift, AP Computer Science Principles with Swift
Programming Language(s)	Swift
Length	Semester, Year-long
Cost	Free
Professional Development	Online training, Local workshops
Technology Requirements	1:1 Mac or MacBook computers
Additional Resources	<a href="https://www.apple.com/everyone-can-code/">https://www.apple.com/everyone-can-code/</a>

Organization	Google
URL	<a href="https://developer.android.com/">https://developer.android.com/</a>
Course(s)	Android Developer Fundamentals (V2), Advanced Android Development
Programming Language(s)	Java, Kotlin
Length	Flexible
Cost	Free
Professional Development	N/a
Technology Requirements	
Additional Resources	<a href="https://developer.android.com/courses">https://developer.android.com/courses</a>



## Additional Curricular Resources

[Alice](#) - introductory block-based programming environment

[AWS Educate](#) - AWS cloud services and some lessons

[Bitsbook](#) – text discussing the implications of various technologies

[Bootstrap](#) - Algebra, Physics, Data Science, Hour of Code curriculum

[Cloud9](#) – cloud development environment

[CoderDojo](#) – develop free, volunteer-led, community-based programming clubs for young people

[CodeSnaps](#) - collaborative coding environment requiring only one iPad and one robot

[Codesters](#) – learn introductory computer science

[Code Academy](#) – various computer science courses

[Codingbat](#) – Python and Java practice

[Cyberpatriot](#) - Cybersecurity competition and curriculum

[CS Unplugged](#) - free unplugged activities

[Free Code Camp](#) – variety of coding lessons

[Girls Who Code](#) – program devoted to closing the gender gap in technology

[Hello Ruby](#) - computer science picture books with online resources

[Indiana Course Access Portal \(iCAP\)](#) - independent study courses available to Indiana students

[Informatics Diversity-Enhanced Workforce \(iDEW\)](#) - high school projects and curriculum from IUPUI

[Interland](#) - interactive game for learning about digital safety and citizenship

[Khan Academy](#) - various lessons, courses, and tutorials

[Kodeable](#) and [Kadable free](#) - algorithm practice for students as young as kindergarten

[Lightbot](#) - basic algorithm practice, conditionals, parallelization

[MIT App Inventor](#) - visual programming environment for building phone and tablet apps

[National Integrated Cyber Education Research Center \(NICERC\)](#) - cyber resources and curriculum

[Nextech Resource Guide](#) - additional computer science resources

[Practice-it!](#) – Java practice



# Indiana Department of Education

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Dr. Katie Jenner, Secretary of Education

[Python Anywhere](#) – host, run, and code Python in the cloud

[Pythonroom](#) – online curriculum

[Raspberry Pi Foundation](#) - project-based CS and making resources

[Scratch](#) - block-based programming environment

[SNAP!](#) - visual, drag-and-drop programming environment

[TEALS](#) – helps schools build computer science programs

[Teach Cyber](#) - teacher-friendly lesson plans for all grade levels

[University of Rhode Island](#) - high school cybersecurity resource

[W3Schools](#) - web developer resource site